

PUBLIC POLICY
AND
NUCLEAR THREATS

TRAINING THE NEXT GENERATION

About the 2003–04 IGERT Fellows and Associates

The first group of IGCC fellows and associates for the National Science Foundation-funded Public Policy and Nuclear Threats (PPNT) program began working together in July 2003 at a month-long seminar on both technical and policy issues surrounding nuclear threats and international security. This cohort of eleven fellows and eight associates comprises current and incoming Ph.D. students from twelve departments and seven of the UC campuses.

IGERT FELLOWS

Robert L. Brown
Daniel H. Chivers
David Cordes
Jay Fahlen
David C. Harrison
Paul Hirsch
Matthew Kroenig
Tim Meyer
Larry Rubin
Aviva Shackell
Jessica Weiss

IGERT ASSOCIATES

Toshihiko Aono
Patricia Hewitson
Matthew Jude Egan
David Palkki
David Petersen
Elena Rodriguez-Vieitez
Kai Stinchcombe
Jennifer C. Zipser

Toshihiko Aono is a Ph.D. student in the Department of History at UC Santa Barbara. He received his B.A. and M.A. from Hitotsubashi University, Tokyo, Japan. Aono is interested in the history of the Cold War, especially U.S.-European alliance relations. He is currently working on his dissertation on the Berlin Crisis and the Cuban Missile Crisis from 1961 to 1963.

Robert L. Brown is a Ph.D. student in Political Science at UC San Diego. His research encompasses international security issues, including state commitments to security institutions. While earning his M.A. in International Affairs (1999) at the George Washington University, his research included security regimes in Northeast Asia. In between academic degrees Brown worked as an English teacher in Japan, as a consultant to financial services firms, and as a program officer for security at the Nautilus Institute in Berkeley, California. His dissertation will most probably explore state commitments to arms control and nonproliferation regimes.

Daniel H. Chivers is a Ph.D. candidate in the Nuclear Engineering Department at the University of California at Berkeley and holds dual B.S. degrees in Electrical and Nuclear Engineering, also from UC Berkeley. His dissertation research involves increasing detection sensitivity for gamma-ray imaging systems for use in homeland security and nuclear materials accountancy programs.

As an NSF IGERT Fellow, he has taken part in many projects integrating nuclear technology and national security policy, where his focus has been on the implementation of nuclear forensics as a tool for credible deterrence of state-sponsored nuclear terrorism. As an undergraduate student, he performed research in radiation detection systems at Lawrence Livermore National Laboratory's Nuclear Nonproliferation, Arms Control, and International Security (NAI) directorate. His research involved studying gamma ray trajectory sensing using gas-filled time-projection chambers and investigation of neutron background characteristics.

Before entering Berkeley, Chivers served for six years in the U.S. Navy as a nuclear reactor operator and spent several years in the embedded systems industry as a software engineer. During his naval service, he served as a staff instructor at the INEL S5G prototype reactor and as reactor controls leading petty officer on the USS Arkansas. His tenure on the Arkansas culminated in 1996 with a Naval Achievement Medal for actions performed during Operation Desert Strike.

David Cordes is a Ph.D. student in Chemistry at UC Santa Cruz. His research interests include the development of fluorescent chemosensors, science education, and nuclear security issues. Cordes was born and raised in New York City and studied American history and education at City University of New York. After stints as a junior-high school teacher in Brooklyn and as a public health counselor for the NYC Department of Health, Cordes moved to California in 1994. He taught history for several years at a junior high school in Oakland while taking science classes in the evenings. After obtaining a secondary credential to teach science, he taught high-school chemistry and biology for two years before pursuing an advanced degree in organic chemistry.

Jude Egan came to the study of nuclear policy and regulation through his interest in “big, dangerous technologies” and the systems— legal, political, and technical—used to keep them safe. He got involved in the Berkeley project on High Reliability Organizations and ended up working at Los Alamos National Laboratory (LANL) on and off for four years. He has just completed a one-year stint in the Human Safety and Radiation division of the lab, where he researched the effects of new security policies on safety performance, using risk analysis as a lens through which to view legal and political decision making. His doctoral dissertation, in the Jurisprudence and Social Policy Department at UC Berkeley, reflects a larger view of the intersection of law and risk through a series of case studies of nearly catastrophic accidents (safety and security). Egan is an avid ultimate frisbee player, a writer of novels, and a traveler. His interest in nonproliferation issues has been brewing since the Reagan era and its proliferation policies. He attended the New Triad conference at LANL and has found that many of the strategies he has been developing with regard to risk and policymaking may be applied to proliferation issues as well.

Jay Fahlen is a Ph.D. student in the Department of Electrical Engineering at UC Los Angeles. He received his B.S. in Electrical Engineering UC Los Angeles in 2001. After completing his undergraduate work, Fahlen worked in the UCLA Image Processing Lab on an Office of Naval Research project to transmit low-bit-rate digital video over wireless networks. He very much enjoyed both the project and learning to fly RC helicopters. His current research involves high intensity laser-thin target interactions. Outside of school, Fahlen enjoys hiking, playing music with friends, and playing golf.

David C. Harrison is currently a Ph.D. student in the Department of Political Science at UC Irvine. His research interests include nuclear proliferation, threats from weapons of mass destruction, international terrorism, and strategic surprise. After graduating from the U.S. Naval Academy, Harrison served aboard cruisers, destroyers, and aircraft carriers in the Pacific. He was commanding officer of the USS Vandegrif (FFG-48) and commanded a surface action group deployed to the Persian Gulf to enforce UN sanctions against Iraq. Staff assignments include Israel Desk Officer and Middle East Branch Head for the Chairman, Joint Chiefs of Staff, during the 1991 Gulf War, and Deputy Director for Operations, U.S. Atlantic Fleet. He received a M.A. in National Security Affairs from the Naval Postgraduate School in Monterey, California and was a National Security Fellow at the Kennedy School of Government.

Patricia Hewitson is an international lawyer with over ten years' experience in the Australian Department of Foreign Affairs and Trade. She has worked on issues ranging from nuclear policy to international trade law, and has served as a diplomat in South Africa and as a civilian peace monitor in Bougainville, Papua New Guinea. Hewitson has represented Australia at international conferences, including the 1995 Nuclear Non-Proliferation Treaty Review and Extension Conference. She has Master of Laws degrees in international law from UC Berkeley and from the Australian National University. Hewitson is currently pursuing a Doctor of Juridical Science (J.S.D.) degree in international law at UC Berkeley as a Rotary World Peace Scholar. Her research focus is nuclear nonproliferation and disarmament.

Paul Hirsch is a Ph.D. candidate in the Department of History at UC Santa Barbara. Within his focus on U.S. foreign relations, Hirsch works on the issue of nuclear proliferation during the second phase of the Cold War. His dissertation will likely examine the effects of the Soviet collapse on the international nuclear nonproliferation regime.

Hirsch received his M.A. in U.S. history from UC Santa Barbara in 2006. He is a 1997 cum laude graduate of Tuft University, where he majored in history with a focus on Russian/Soviet studies and minored in political science. He was awarded Highest Thesis Honors for his undergraduate thesis, which examined representations of the atomic bomb in children's literature and comic books in the decade following WWII. While at Tufts, Hirsch worked on arms control issues at the Program for Science and Technology in International Security at MIT, and more recently, at the Los Alamos National Laboratory. Between 1997 and 2002 Hirsch worked as a technical writer and manager for several computer companies in the Boston area.

Matthew Kroenig is a doctoral candidate in the Department of Political Science at the University of California, Berkeley. His dissertation explains the strategic incentives that drive states to provide nuclear weapons technology to nonnuclear-weapon states. His other research focuses on international security, nuclear weapons proliferation, homeland security, terrorism, and civil war. His writings on international security issues have appeared in such publications as *Democratization*, *Foreign Affairs*, *Foreign Policy*, *Newsday*, and *Security Studies*. Kroenig has also served as a strategist in the Office of the Secretary of Defense, where he was a principal author of key national security strategy and defense review documents and where he developed a U.S. government-wide strategy for deterring terrorist networks. For his work, Kroenig received the Department of Defense's Award for Outstanding Achievement.

Tim Meyer is studying international law and treaty regimes at the Jurisprudence and Social Policy program at UC Berkeley as an IGCC IGERT Fellow. His ongoing research interests are in establishing international treaty regimes with credible enforcement mechanisms in order to regulate and prevent the proliferation of weapons of mass destruction. Meyer graduated Phi Beta Kappa from Stanford University in 2003 with a B.A. in history and political theory, and an M.A. in history. In 2001, he received a fellowship to research and compare Soviet and post-Soviet ideological perceptions of World War II in St. Petersburg, Russia.

During 2002, Meyer worked for the Newly Independent States Division of the Center for Non-Proliferation Studies at the Monterey Institute for International Studies, coauthoring a paper entitled, "The 10 plus 10 over 10 Initiative: A Promising Start, But Little Substance So Far." His other papers include an in-depth analysis of factors and motives pertaining to the 1979 Soviet decision to invade Afghanistan, and "Catching Up: Islamic Political Ideology and the West," in the *Stanford Journal of International Relations*.

David Palkki is a fourth-year Ph.D. student in the Department of Political Science at UC Los Angeles. He graduated *cum laude* from Brigham Young University with a B.A. in political science and minors in history and German. His research interests include theories of war causation, arms control, and nuclear proliferation. After graduating from BYU, Palkki spent two years in Washington, D.C., working for the U.S. House of Representatives as a staff assistant on the Ways and Means Trade Subcommittee. Palkki became proficient in German while working in Germany and Switzerland for two years before beginning college, and has returned to Europe to work as a polling station supervisor in Kosovo and as an election observer in Serbia, Bosnia, and Moldova for the Organization for Security and Cooperation in Europe. He has completed internships in the Washington, D.C., area with Amnesty International's Europe and Middle East Legislative Department, U.S. Representative Mike Simpson's office, and the U.S. government.

David Petersen is entering the second year of his Ph.D. program in the Nuclear Engineering Department at UC Berkeley. He is currently doing research with the Radiation Detection Group at Lawrence Livermore National Laboratory (LLNL). He is interested in comparing the effectiveness of different types of radiation detectors. Petersen received his B.S. in Physics from North Park University in Chicago, Illinois. Originally from Illinois, Petersen has participated in summer research programs with the Materials Science Group at Argonne National Lab and with the High Energy Physics Group at the University of Illinois at Urbana-Champaign. He enjoys playing soccer, volleyball, and basketball.

Elena Rodriguez-Vieitez is a third-year Ph.D. student in Nuclear Engineering at UC Berkeley. She received her M.S. in Civil and Environmental Engineering at the University of Utah (Salt Lake City) with a thesis on biological treatment and energy recovery from municipal solid waste, and her B.S. in Physics from the University of Santiago de Compostela in Spain.

As a graduate student at UC Berkeley, Rodriguez-Vieitez has collaborated on accelerator-driven nuclear waste transmutation research sponsored by Los Alamos National Laboratory (Department of Energy) and is currently working on experimental nuclear physics research at the Nuclear Structure Group, Lawrence Berkeley National Laboratory. Prior to her current studies, Rodriguez-Vieitez was an intern at the National Academy of Sciences' Board on Radioactive Waste Management in Washington, D.C. Her current interests include the policy aspects of nuclear waste management technologies as related to nonproliferation and security of nuclear materials.

Larry Rubin is pursuing his Ph.D. in Political Science at UCLA. After receiving a B.A. in history from UC Berkeley, he earned graduate degrees from the London School of Economics and the University of Oxford. He has held positions at the Near East South Asia Center for Strategic Studies at the National Defense University and the RAND Corporation. Rubin is currently the assistant editor of the journal *Terrorism and Political Violence*. He has conducted fieldwork in Yemen, Morocco, Egypt, and Israel, and he speaks both Arabic and Hebrew. His dissertation focuses on threat perception and foreign policy decision-making of Middle East states.

Aviva Shackell is currently a physics graduate student and teaching assistant at UC Los Angeles. Her interests in physics range from condensed matter physics to high-energy physics and astro-particle physics. Her laboratory research experience includes: in astro-particle physics, gamma ray astronomy (VERITAS group under Rene Ong, UC Los Angeles); in high-energy physics, CP violation (BaBar group under Claudio Campagnari, UC Santa Barbara); and in cosmology, anisotropies of the cosmic microwave background (CMB) radiation, both at UCLA and at her undergraduate institution, UC Santa Barbara. Engaged in taking classes and preparing for her qualifying exams, Shackell has not yet decided which field of specialization in physics she wishes to pursue.

Jessica Weiss is a second-year Ph.D. student in Political Science at UC San Diego, studying international relations and comparative politics with a focus on Chinese politics and East Asian security.

Weiss graduated from Stanford University in 2003 with a B.A. in Political Science. As an undergraduate, she founded the Forum for American/Chinese Exchange at Stanford (FACES), which recently hosted On Common Ground 2003, Stanford's first student leaders' conference on U.S.-China relations. During the summer of 2002, she worked as an intern for the Carter Center China Village Elections Project in Beijing, China. In addition, as one of twelve students to participate Stanford's Overseas Seminar on Chinese elections and local reform, she interviewed village cadres and peasants in China's northernmost province and accompanied Ministry of Civil Affairs officials to observe elections in China's villages.

In previous summers, Weiss studied Mandarin at Beijing Normal University and was an intern at the Arms Control Association in Washington, D.C. This past summer she interned at Lawrence Livermore National Laboratory in the Nonproliferation, Arms Control, and International Security directorate, researching Chinese–North Korean relations and the nuclear crisis.